WHAT IS CLAIMED IS:

1. A method for providing efficiency and cost analysis for a power generation unit comprising the steps of:

acquiring a plurality of current condition variables for said power generation unit;

acquiring a plurality of design constants for said power generation unit; and

calculating operational efficiency of said power generation unit.

2. The method of claim 1, further comprising the step of:

acquiring a plurality of alternative target operation variables for said power generation unit.

3. The method of claim 2, wherein said step of acquiring a plurality of current condition variables further comprises:

acquiring a plurality of stage operation variables for said power generation unit; and

wherein said step of acquiring a plurality of design constants further comprises:

acquiring a plurality of stage design constants for said power generation unit.

4. The method of claim 3, wherein said step of calculating operational efficiency of said power generation unit further comprises:

calculating operational efficiency between each stage of said plurality of stage operation variables of said power generation unit; and

calculating operational efficiency between each stage of said plurality of stage design constants of said power generation unit.

5. The method of claim 4, wherein said step of acquiring a plurality of alternative target operation variables further comprises:

acquiring a plurality of stage alternative target operation variables for said power generation unit.

6. The method of claim 5, wherein said step of calculating operational efficiency of said power generation unit further comprises:

calculating operational efficiency between each stage of said plurality of stage alternative target operation variables of said power generation unit.

7. The method of claim 6, further comprising the step of:

calculating a plurality of optimization variables to associate increased efficiency of said power generation unit with maintenance cost to achieve said increased efficiency; and

generating a report indicating a plurality of optimization variables for said power generation unit.

8. A system for providing efficiency and cost analysis for a power generation unit comprising:

means for acquiring a plurality of current condition variables for said power generation unit;

means for acquiring a plurality of design constants for said power generation unit; and

means for calculating operational efficiency of said power generation unit.

9. The system of claim 8, further comprising:

means for acquiring a plurality of alternative target operation variables for said power generation unit.

10. The system of claim 9, further comprising:

means for acquiring a plurality of stage operation variables for said power generation unit; and

means for acquiring a plurality of stage design constants for said power generation unit.

11. The system of claim 10, wherein said calculating operational efficiency means further comprises:

means for calculating operational efficiency between each stage of said plurality of stage operation variables of said power generation unit; and

means for calculating operational efficiency between each stage of said plurality of stage design constants of said power generation unit.

12. The system of claim 11, wherein said acquiring a plurality of alternative target operation variables means further comprises:

means for acquiring a plurality of stage alternative target operation variables for said power generation unit.

13. The system of claim 12, wherein said calculating operational efficiency means further comprises:

means for calculating operational efficiency between each stage of said plurality of stage alternative target operation variables of said power generation unit.

14. The system of claim 13, further comprising:

means for calculating a plurality of optimization variables to associate increased efficiency of said power generation unit with maintenance cost to achieve said increased efficiency; and

means for generating a report indicating a plurality of optimization variables for said power generation unit.

15. A system for providing efficiency and cost analysis for a power generation unit comprising:

current condition data acquisition logic that acquires a plurality of current condition variables for said power generation unit;

design constants acquisition logic that acquires a plurality of design constants for said power generation unit; and

analysis logic that calculates a operational efficiency of said power generation unit.

16. The system of claim 15 further comprising:

stage operation acquisition logic that acquires a plurality of stage operation variables for said power generation unit; and

stage design constants acquisition logic that acquires a plurality of stage design constants for said power generation unit.

17. The system of claim 16, wherein said analysis logic further comprises:

stage operation calculating logic that calculates operational efficiency between each stage of said plurality of stage operation variables of said power generation unit; and

stage design calculating logic that calculates operational efficiency between each stage of said plurality of stage design constants of said power generation unit.

18. The system of claim 17, further comprising:

target operation acquisition logic that acquires a plurality of alternative target operation variables for said power generation unit.

19. The system of claim 18, further comprising:

stage target acquisition logic that acquires a plurality of stage alternative target operation variables for said power generation unit

20. The system of claim 19, wherein said analysis logic further comprises:

stage target calculating logic that calculates operational efficiency between each stage of said plurality of stage alternative target operation variables of said power generation unit.

21. The system of claim 20, further comprises:

optimization calculating logic that calculates a plurality of optimization variables to associate increased efficiency of said power generation unit with maintenance cost to achieve said increased efficiency; and

report generating logic that generates a report indicating a plurality of optimization variables for said power generation unit.

22. A computer readable recording medium having a program providing efficiency and cost analysis for a power generation unit, said program comprising:

means for acquiring a plurality of current condition variables for said power generation unit;

means for acquiring a plurality of design constants for said power generation unit; and

means for calculating operational efficiency of said power generation unit.

23. The computer readable medium of claim 22, further comprising:

a first routine means for acquiring a plurality of stage operation variables for said power generation unit; and

a second routine means for acquiring a plurality of stage design constants for said power generation unit.

24. The computer readable medium of claim 23, further comprising:

a third routine means for calculating operational efficiency between each stage of said plurality of stage operation variables of said power generation unit; and

a fourth routine means for calculating operational efficiency between each stage of said plurality of stage design constants of said power generation unit.

25. The computer readable medium of claim 24, further comprising:

a fifth routine means for acquiring a plurality of alternative target operation variables for said power generation unit; and

a sixth routine means for acquiring a plurality of stage alternative target operation variables for said power generation unit.

26. The computer readable medium of claim 25, further comprising:

a seventh routine means for calculating a plurality of optimization variables to associate increased efficiency of said power generation unit with maintenance cost to achieve said increased efficiency; and

an eighth routine means for generating a report indicating a plurality of optimization variables for said power generation unit.